MODIS Technical Team Meeting
Thursday, August 16, 2001
3:00 PM

Bob Murphy chaired the meeting. Present were Dorothy Hall, Wayne Esaias, Bill Barnes, Jack Xiong, Gary Alcott, Ed Masuoka, and Bruce Ramsay, with Rebecca Lindsey taking the minutes.

1.0 Schedule of Upcoming Events

*   MODIS Science Team Meeting   September 24-26, 2001
    Location: BWI Marriott
    On-line registration due date   September 2, 2001
    http://modis.gsfc.nasa.gov/MODIS/SCITEAM/200101/regform.html

2.0 Meeting Minutes

2.1 Instrument Update (provided via email by Mike Roberto)

Project, Raytheon, and TRW personnel have been looking into ways to increase the survival temperatures for the MODIS microprocessors on the Aqua spacecraft. The general consensus of the team is that an external relay should be used to bypass the internal thermostats to provide more heater power during survival mode. Details are being worked. The goal is to reduce the possibility of problems during starting the microprocessors from cold temperatures.

Goddard has received A dozen MOSFET parts similar to the ones used on the Aqua MODIS instrument power supply. Art Ruitberg will be using a few of the parts for breadboard testing and about six of the parts will be used for radiation testing. Henning Leidecker and Ray Ladbury (OSC) of the Component Technologies and Radiation Effects Branch have recommended the radiation tests. Work has been started to provide funds to the Naval Surface Warfare Center Crane Division (NAVSEA Crane). Once the funds are received, NAVSEA Crane will schedule beam time at Brookhaven National Lab on Long Island. At this time, Ray believes it was likely a very unusual cosmic ray hit that damaged the power supply. If the testing supports this assumption, it is unlikely the Aqua power supply MOSFETs will be changed out. At least one possible replacement part has been identified by the team if needed.

Barnes reported that the pump down of Aqua for thermal vacuum testing will begin on August 18. He indicated that Santa Barbara Remote Sensing (SBRS) has been asking for manpower for thermal vacuum testing, and they specifically asked for Chad Salo and his personnel. Barnes, however, feels that Salo cannot be spared, as he is running Terra MODIS. Murphy asked if we sent personnel during Terra thermal vacuum tests. Xiong said that a couple of people went to Valley Forge, but no one from GSFC ran the console.

Xiong reported that a new LUT had been delivered to the DAAC to accommodate the Band 5 gain change on Terra MODIS. They are planning to hold a small workshop to discuss the SWIR cross talk correction algorithms they have designed for Bands 5, 6, 7

and 26.Also, Xiong reported that MCST has data from the thermal leak correction switch, but it has not been analyzed.

Finally, with respect to the Aqua SDSM, which showed evidence problems with either the screen or the aperture, consideration is being given to changing the screen, which would not necessitate pulling the whole SDSM off the spacecraft after thermal vacuum testing. MCST had been initially unsure whether such a change would be conclusively beneficial, but have since been able to model the scenario effectively. The model shows a definite improvement could be achieved. The next step will be to get the Project to agree to have SBRS build the screen. Barnes plans to meet with Mark Domen or Ken Anderson about proposing a plan that will minimize impact on the instrument and the spacecraft.

2.2 GES DAAC update
Alcott reported that the new MCST LUTs are installed and both S4PM and PDPS are ready to go. They have a temporary fix for the EDOS delivery problem, which was that about 40% of L0 files were arriving truncated due to ftp session timeouts. They have changed the ftp path, and that avoids the problem.

Alcott reported that while they were testing their new system for filling data requests with physical media (DLT), they received an EDG request, and so they went ahead and filled it using the new system. It appeared to function properly.

Yesterday (August 15) was a bad day for the DAAC, as they had trouble putting in disk drives that would have mitigated staging problems they are having with S4PM. The power supply went bad while those were going in, and then once they were up, the directory structure that MODAPS pushes data to (ingest) was not active. All the requests for ingest piled up and clogged the system. After they corrected the problem, the system had been processing data at about 1.5x. If that rate holds through the night, we will bring up PDPS August 17. Alcott estimated that to get Salomonson's requested three-month period completed, they will need to achieve 1. 5x. He thinks that is doable.

2.3 MODAPS Update
Masuoka reported that Oceans days 81-96 are made with new algorithms, but the previous two weeks have not been. Steve Running's product has a few failed granules, and the land data team is investigating that. MODAPS had held off processing while they push off 16-day products. Input data through day 104 is complete.

He asked about the month of March, which they are planning on beginning with March5. The atmosphere team had requested MODAPS do the whole month, but that doesn't help the other disciplines. Murphy suggested MODAPS go ahead and proceed with their current strategy, and go back at the end of the processing and get those four days if there is time.

Esaias asked what the most recent complete week of Oceans data processed with the new algorithms. Masuoka said that days 145-152 are done, and that 153-161 is in progress. Esaias indicated they would use those periods to generate some new Oceans imagery.

Masuoka reported that most code is behaving, although as they get into some of the higher day products they may encounter some hiccups because they have not been run before. He also reported that the new L2Gs are volumetric, which is a different way of aggregating. This is causing some of the files to be bigger, and around the poles data are being lost. Esaias expressed concern over this change, which appears to impact common resources. It was not discussed at the PIP meetings. Murphy deferred further discussion until all parties were present.

2.4 Oceans Update

Esaias reported that the new ocean products look really good, and the team has a web page that shows quality levels and histograms for all products: (http://modis-ocean.gsfc.nasa.gov/qa/archive.html). [On that page, see the Level 3 Provisional (Version 3) images. Some periods under Level 3 Provisional are being regenerated, so users should only take a look at interim dailies after day 2001081 and de-clouded dailies and weeklies after day 2001081. From the thumbnail page, click on a thumbnail to see a larger image, or click on the small histogram button to view quality levels and data statistics.] Esaias said that they are seeing global distributions that have never been seen before. Murphy suggested he make a visit to HQ with the new results.

Esaias had heard from Bob Evans that tests on thermal and visible bands of A-side data (i.e. tests of the L2 corrections that Oceans uses over and above the L1b corrections) look stable from B-side to A-side. There remains about 1 percent calibration difference that has appeared, which appears to be the level that MCST can achieve. But the bulk of the work for normalizations is OK. Esaias indicated they would still need to work on the band-to-band calibration. To do this they need current data that is concurrent with MOBY data from Hawaii. They are thinking of getting it from the MODIS Direct broadcast receiving station there, but that may not be ideal because we can't be sure they are running the exact code the DAAC is. At this point, it will be after September 15 before the DAAC could process the MOBY-concurrent data unless it slipped the three-month period. Until Oceans has MOBY-concurrent data they can't make the decision about going back to B-side. Masuoka asked if perhaps NOAA could provide the data. Ramsay said he would look into the possibly.

Esaias indicated that the benefits of going to B-side are at the tenths of percent magnitude. But they have shown that the digitizer problems are still there, as they were before. He said that for the consistent year, the means would still be the same, although the A-side data would be noisier.

Esaias said that the Oregon State Direct Broadcast Receiving Station is making daily ocean color and SST, and they are available on the web (http://picasso.oce.orst.edu/ORSOO/MODIS/DB/satdish.html).

2.5 Cryosphere Update

Hall reported that they are updating ATBDs and their web site, and are getting ready for their ad hoc meeting on October 31. In addition, they are getting ready to put in a request for a code change.

2.6 NOAA/NESDIS Update

Ramsay reported the OSDPD assessment that the idea of sharing the NASA-NPP data processing system was not viable. He also reported that two MODIS-related projects are being considered for funding in the FY 2002 budget. One is for using the MODIS 12-µm band for use in GOES-based volcanic ash identification and monitoring. The other project is to prototype Chris Justice's Rapid Response fire detection products into a current NOAA effort to provide an operational demonstration system focused on natural disasters including wildfires.

2.7 Conclusion

Lindsey reminded those present to spread the word about registration for the MODIS Science Team Meeting; the online registration closes on September 2.

Murphy said that he had inquired with procurement about contract extensions, and they said some were done, and others were not. He will provide more information as it becomes available.

3.0 Action Items

3.1 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.
        Status: Open.
3.2 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.
        Status: Open.